REMARKS

Claims 2-9 are currently pending in the application. Applicant has amended claims 2-9. Applicant requests reconsideration of the application in light of the following remarks.

Rejections under 35 U.S.C. §112

Claims 6 and 9 stand rejected by the Examiner under 35 U.S.C. 112. In accordance with this rejection, the claims have been amended to comply with the examiner's suggestions and are now believed to conform with Section 112. Applicant respectfully requests that the rejection of claims 6 and 9 under 35 U.S.C. § 112 be withdrawn.

The Examiner stated that claims 6 and 9 recite "means for" without providing a corresponding definitive "means" defined in the specification, Claims 6 and 9 have been amended not to recite any "means for" and in this respect, Applicant submits that the objection is overcome.

Rejections under 35 U.S.C. § 101

Claim 2-9 stand rejected under 35 U.S.C. § 101 because the claimed invention is drawn to non-statutory subject matter. To overcome this rejection, the Applicant has amended claims 2-9.

The Examiner stated that the claims define non-statutory processes because they merely manipulate an abstract idea (mathematical algorithm), a series of steps to be performed on a computer. In response to the rejection, claims 2-9 have been amended to claim a method that produces a useful, tangible and concrete result. Specifically, the claims

have been amended to clearly define that the preprocessing method causes a predetermined codec to classify as valid voice data an audio data that otherwise would have been classified as noise data. In other words, the claimed method converts audio data, that would ordinarily be classified as noise in a conventional codec, into preprocessed audio data classified as valid voice data that would be properly encoded in the codec. Applicant respectfully submits that this conversion of data to be further processed by the predetermined codec is more than just a "mathematical calculation" suggested by the Examiner. The adjustment of the energy level produces a tangible result: preprocessed audio data that is optimally adjusted for further processing by the predetermined codec. This preprocessed audio data represents a product that can be embodied as a data file, which is clearly a useful, tangible and concrete result, and not one that is entirely a "software embodiment" as suggested by the Examiner.

Applicant respectfully requests that the non-statutory subject matter rejection be withdrawn.

Rejections under 35 U.S.C. '103

To establish a prima facie case of obviousness under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based

upon the Applicants' disclosure. A failure to meet any one of these criteria is a failure to establish a prima facie case of obviousness. MPEP §2143.

Claims

Claims 4 and 6-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over DeJaco (U.S. Patent No. 5,742,734) in view of Malvar (U.S. Patent No, 6,029,126). Claims 2, 3 and 9stand rejected under 35 U.S.C 103(a) as being unpatentable over DeJaco in view of Malvar ,and further in view of Davis (US Patent N. 4,539,526). Claim 5 stands rejected under35 U.S.C. 103(a) as being unpatentable over DeJaco in view of Malvar, and further in view of Forse (U,S. Patent No, 4,912,766), Applicant respectfully traverses these rejections and requests reconsideration of the claims.

In response to the rejections, claims 2-9 have been amended. Claim 2 is directed to a preprocessing method for preprocessing audio data before subsequent processing by a predetermined codec optimized for voice data, which is, for example, a conventional voice codec for wireless telephony. Ordinarily, if audio data other than voice data is encoded by such a voice codec, a substantial part of the non-voice audio data may be classified as noise by the conventional codec and may not be encoded properly. Since this type of codec optimized for voice data is widely used, it would be difficult to modify the existing conventional codec without massive modification, reprogramming and/or re-design. Instead, the present invention provides a solution to this problem by preprocessing the audio data so that the preprocessed audio data can be encoded properly by the conventional codec without requiring any modification to the codec. In other words, the present invention provides a "retrofit" type of technology that is compatible with existing predetermined codecs optimized for voice data,

Specifically, audio data is analyzed to select the frames that, if provided to the predetermined codec, ate classified as noise data and would not be properly encoded; and

the energy of the selected frames are adjusted as to produce preprocessed frames of audio data that, if provided to the predetermined codec, are classified as valid voice data and encoded properly (i.e, at an encoding rate that is not the lowest encoding rate). In this way, the preprocessing causes the predetermined codec to classify the preprocessed frames of audio data as valid voice data instead of noise data. The ultimate result is to produce audio data that is higher quality than would ordinarily be produced by the predetermined codec.

Applicant respectfully submits that DeJaco does not teach or suggest a method of preprocessing audio data that would be classified and encoded as noise data by a predetermined codec optimized for voice (e.g., voice codec) to cause the predetermined codec to classify the preprocessed audio data as valid voice data instead of noise data. Rather DeJaco only appears to disclose modifying the predetermined codec itself by improving the encoding rate decision method/apparatus, which is a part of the predetermined codec. By contrast, as claimed in the present invention, the rate decision result of the predetermined codec is affected by preprocessing audio data to be fed into the codec without any modification to the rate decision algorithm in the predetermined codec itself.

Malvar appears to simply describe automatic gain control without any detailed function, and does not teach or suggest analyzing audio data so as to select the frames that are classified as noise data if provided to the predetermined codec.

Applicant respectfully submits that even assuming arguendo, the combination of DeJaco and Malvar merely creates a modified predetermined codec with automatic gain control, which is distinguishable from the claimed invention which does not require any modification to the predetermined codec itself, as previously discussed.

Accordingly, Malvar, alone or in combination with DeJaco, does not either teach or suggest a method of preprocessing audio data that would be classified and encoded as noise data by a predetermined codec optimized for voice (e,g, voice codec) to cause the predetermined codec to classify the preprocessed audio data as valid voice data instead of noise data.

Claims 3 through 9 are dependent on independent claim 2 and have additional limitations that are not disclosed in any of the references. In the respect that claim 2 is believed to be patentable over Delaco and Malvar, claims 3 through 9 are also believed to be allowable.

In claim 3, as currently amended, a silence frame is determined such that the energy of the silence frame is not adjusted in the adjusting step.

Claims 4-7, as currently amended, provide further detailed functions of the adjusting step.

Claim 8, as currently amended, further recites that the preprocessing uses the same rate decision algorithm as the one used by the predetermined coder.

Claim 9, as currently amended, further recites that the computing system for preprocessing audio data is a separate system from the predetermined codec.

Furthermore, it is difficult, if not impossible, to imagine how one skilled in the art in possession of these references could conceive of the present invention absent hindsight reconstruction which was prohibited by the Supreme Court in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428 435-436 (1911). To find obviousness, "there must be some reason for the combination other than the hindsight gleaned from the

invention itself." *Interconnect Planning Corp. v. Feil*, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). Stated in another way, "[I]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Fritch* 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992).

Applicant respectfully submits that the combination of the references for the purposes of the present rejection is improper because of the failure of either patent to suggest the combination. It is a requirement that in making a combination of patents in a rejection, those patents must suggest the desirability of the combination of teachings. This requirement was expressed by the Court of Customs and Patent Appeals in In re Imperato, 179 U.S.P.Q. 730 where it stated:

"...the mere fact that those disclosures can be combined does not make the combination obvious unless the art also contains something to suggest the desirability of the combination."

Applicant respectfully requests that the obviousness rejections of claims 2-9 be withdrawn.

Regarding Doctrine of Equivalents

Applicant hereby declares that any amendments herein that are not specifically made for the purpose of patentability are made for other purposes, such as clarification, and that no such changes shall be construed as limiting the scope of the claims or the application of the Doctrine of Equivalents.

CONCLUSION

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

It is requested that a one-month extension of time be granted for the filing of this response, and the appropriate extension filing fee of $65 be charged to Deposit Account No. 19-0513.

If any fees, including extension of time fees or additional claims fees, are due as a result of this response, please charge Deposit Account No. 19-0513. This authorization is intended to act as a constructive petition for an extension of time, should an extension of time be needed as a result of this response. The examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

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